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EXAMINER	
CHU, GABRIEL L	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,399	FIELDS ET AL.	
	Examiner	Art Unit	
	Gabriel L. Chu	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-13 and 15-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-13 and 15-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1, 4, 5, 11-13, 19, 20 rejected under 35 U.S.C. 102(e) as being anticipated by US 6704885 to Salas-Meza et al. (herein SM)**. Referring to claim 1, SM discloses a system for effecting redundant data storage, comprising:

a device that includes a local memory storage (Figure 2, element23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."), and a chip that is programmed with an instruction set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU), random access memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive,

network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage."),

and a remote data storage location that includes a second communication element that permits communication with said first communication element (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and said second communication element if it is determined that contents within said local memory storage have been modified relative to said prior communication with said local memory storage, said communication being effective to reposit said contents in a redundant manner within said remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions.

Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time period of ten minutes is used in the described embodiment." From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.");

and wherein said device is selected from the group consisting of a personal digital assistance, a cellular phone, a camera, a laptop computer, a desktop computer, a

watch, a disc player, a server and a silo (From line 46 of column 1, "By comparison, mobile computing environments generally consist of conventional notebook and portable computers, but has increasingly included thin clients (diskless workstations), handheld personal data assistants, and other forms of portable and highly portable computing devices.").

2. Referring to claim 4, 13, SM discloses said automatic communication between said first communication element and said second communication element is wireless (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.").

3. Referring to claim 5, SM discloses said automatic communication between said first communication element and said second communication element is wired (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof.").

4. Referring to claim 11, 19, SM discloses said contents of said local memory storage define a send data object for communication to said remote data storage location (From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136).").

5. Referring to claim 12, SM discloses a method for establishing redundant data storage for data stored within a mobile device (From line 34 of column 3, "The distributed computing environment 10 consists of a plurality of individual clients 11 interconnected with a centralized server 12 via an intranetwork 13. In turn, the clients 11 and centralized server 12 are connected to an internetwork 15, such as the Internet, through a router 14. Mobile clients 16 and other remote clients 17 can access the intranetwork 13 via the internetwork 15. Other network topologies and configurations of machines and network resources are feasible."), comprising:

(a) providing said mobile device with a local memory storage (Figure 2, element23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."), and a chip that is programmed with an instruction set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU), random access memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive, network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage."),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and a second communication element associated with a remote data storage location if it is determined that contents within said local memory storage have been modified relative to said prior communication with said local memory storage; (b) automatically determining whether data stored within said local memory storage has been modified; and (c) if data stored within said local memory storage has been modified, automatically communicating said data to a remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions. Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time

period of ten minutes is used in the described embodiment." From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.").

6. Referring to claim 20, SM discloses communication data from said remote data storage location to said local memory storage of said mobile device (Figure 2, element 31 is bidirectional. Figure 8 shows self-update over connection 31.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claim 2, 3 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of CPU by Microsoft Computer Dictionary (herein MSCD).** Referring to claim 2, 3, SM discloses said chip is a semiconductor chip or a chip set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU)".).

Although SM does not specifically disclose that such a CPU may be on a single chip or a microprocessor, single chip CPUs are very well known in the art. An example of this is shown by MSCD (with emphasis), "Mainframes and early minicomputers contained circuit boards full of integrated circuits that implemented the central processing unit. **Single-chip** central processing units, called **microprocessors**, made possible personal computers and workstations." A person of ordinary skill in the art at the time of the invention would have been motivated to use a single-chip processor because, as disclosed by MSCD above, "Single-chip central processing units, called microprocessors, made possible personal computers and workstations", and SM discloses the use of a CPU in "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12".

9. **Claim 7, 8, 15, 16 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of US 6154637 to Wright et al.** Referring to claim 7, 15, although SM does not specifically disclose said device may be a black box recorder associated with an airliner,

communicating black box data is known in the art. An example of this is shown by Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly." A person of ordinary skill in the art at the time of the invention would have been motivated to backup black box recorder data because, from line 34 of column 1 of Wright, "so that in the unlikely event of an in-flight mishap, the flight data recorder can

be removed and the stored flight performance data analyzed to determine the cause of the anomaly. In a further effort to improve aircraft safety, rather than wait for an accident to happen before analyzing flight; recorder data, the Federal Aviation Administration (FAA) has issued a draft advisory circular AC-120-XX, dated Sep. 20, 1995, entitled "Flight Operational Quality Assurance Program" (FOQA), which recommends that the airlines look at the information provided by the digital flight data acquisition unit at regular intervals."

10. Referring to claim 8, 16, SM in view of Wright discloses said black box recorder includes data collected by at least one of a cockpit voice recorder, a flight data recorder, a flight data recorder and a flight data acquisition unit (Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed

throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly.").

11. **Claim 9, 17 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM and US 6154637 to Wright et al. as applied to claim 7, 16 above, and further in view of US 4604711 to Benn et al**. Referring to claim 9, 17, SM in view of Wright discloses said contents of local memory storage includes flight recorder data (From line 23 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly.").

Although SM in view of Wright does not specifically disclose this is data selected from the group consisting of pre-amplified sounds from the cockpit, pre-amplified voices

from the cockpit, time, pressure, altitude, airspeed, vertical acceleration, magnetic heading, control-column position, rudder-pedal position, control-wheel position, horizontal stabilizer, fuel flow and combinations thereof, the use of this type of information is well known in the art. An example of this is shown by Benn, from line 16 of column 1, "Most of the commercial aircraft flying today are equipped with flight data recorders for recording various aircraft flight parameters such as altitude, airspeed, heading and engine data. The primary purpose for recording aircraft flight data is to provide flight data for accident analysis but the flight data recorded on the aircraft has also proven useful to airline management for other purposes including aircraft maintenance and incident analysis such as a landing approach resulting in a hard landing or a go-around. With the advent of modern digital flight data recorders that are capable of storing over a hundred different flight parameters, the usefulness of the data to the airline operating and maintenance personnel has expanded dramatically. The availability of a large number of flight parameters has made possible significant improvements in the safety as well as economics of flight operations by permitting management to analyze actual flight data. However, in order to be useful, this data must be made available to management in a timely manner and in useful formats." A person of ordinary skill in the art at the time of the invention would have been motivated to use this data because Wright has explicitly disclosed a need for this type of data without naming specifically what this data is, and Benn fulfills this need by disclosing such types of data that may be used in flight analysis as is typical of black box flight data recorders.

12. **Claim 10, 18 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM as applied to claim 1 above, and further in view of "encryption" by MSCD.** Referring to claim 10, 18, although SM does not specifically disclose said chip is further programmed to cause encryption of said contents before communication to said remote data storage location, encrypting data prior to transmission is very well known in the art. An example of this is shown by MSCD, "The process of encoding data to prevent unauthorized access, especially during transmission." A person of ordinary skill in the art at the time of the invention would have been motivated to encrypt the data because, from MSCD, "to prevent unauthorized access".

13. **Claim 21, 22 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6704885 to SM in view of US 6154637 to Wright et al. and US 4604711 to Benn et al.** Referring to claim 21, SM discloses a system for effecting redundant data storage, comprising:

a device that includes a local memory storage (Figure 2, element23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."), and a chip that is programmed with an instruction set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU), random access

memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive, network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage."),

and a remote data storage location that includes a second communication element that permits communication with said first communication element (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and said second communication element if it is determined that contents within said local memory storage have been modified relative to said prior communication with said local memory storage, said communication being effective to reposit said contents in a redundant manner within said remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup

sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions. Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time period of ten minutes is used in the described embodiment." From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.");

and wherein said device is selected from the group consisting of a personal

digital assistance, a cellular phone, a camera, a laptop computer, a desktop computer, a watch, a disc player, a server and a silo (From line 46 of column 1, "By comparison, mobile computing environments generally consist of conventional notebook and portable computers, but has increasingly included thin clients (diskless workstations), handheld personal data assistants, and other forms of portable and highly portable computing devices.").

Although SM does not specifically disclose said device may be a black box recorder associated with an airliner, communicating black box data is known in the art. An example of this is shown by Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon

such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly." A person of ordinary skill in the art at the time of the invention would have been motivated to backup black box recorder data because, from line 34 of column 1 of Wright, "so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly. In a further effort to improve aircraft safety, rather than wait for an accident to happen before analyzing flight; recorder data, the Federal Aviation Administration (FAA) has issued a draft advisory circular AC-120-XX, dated Sep. 20, 1995, entitled "Flight Operational Quality Assurance Program" (FOQA), which recommends that the airlines look at the information provided by the digital flight data acquisition unit at regular intervals."

SM in view of Wright discloses said contents of local memory storage includes flight recorder data (From line 23 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as

the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly.").

Although SM in view of Wright does not specifically disclose this is data selected from the group consisting of pre-amplified sounds from the cockpit, pre-amplified voices from the cockpit, time, pressure, altitude, airspeed, vertical acceleration, magnetic heading, control-column position, rudder-pedal position, control-wheel position, horizontal stabilizer, fuel flow and combinations thereof, the use of this type of information is well known in the art. An example of this is shown by Benn, from line 16 of column 1, "Most of the commercial aircraft flying today are equipped with flight data recorders for recording various aircraft flight parameters such as altitude, airspeed, heading and engine data. The primary purpose for recording aircraft flight data is to provide flight data for accident analysis but the flight data recorded on the aircraft has also proven useful to airline management for other purposes including aircraft maintenance and incident analysis such as a landing approach resulting in a hard landing or a go-around. With the advent of modern digital flight data recorders that are capable of storing over a hundred different flight parameters, the usefulness of the data to the airline operating and maintenance personnel has expanded dramatically. The availability of a large number of flight parameters has made possible significant improvements in the safety as well as economics of flight operations by permitting management to analyze actual flight data. However, in order to be useful, this data must be made available to management in a timely manner and in useful formats." A

person of ordinary skill in the art at the time of the invention would have been motivated to use this data because Wright has explicitly disclosed a need for this type of data without naming specifically what this data is, and Benn fulfills this need by disclosing such types of data that may be used in flight analysis as is typical of black box flight data recorders.

14. Referring to claim 22, SM discloses discloses a method for establishing redundant data storage for data stored within a mobile device (From line 34 of column 3, "The distributed computing environment 10 consists of a plurality of individual clients 11 interconnected with a centralized server 12 via an intranetwork 13. In turn, the clients 11 and centralized server 12 are connected to an internetwork 15, such as the Internet, through a router 14. Mobile clients 16 and other remote clients 17 can access the intranetwork 13 via the internetwork 15. Other network topologies and configurations of machines and network resources are feasible."), comprising:

(a) providing said mobile device with a local memory storage (Figure 2, element23.), a first communication element that permits communication with a remote data storage location (Figure 2, element 31. From line 64 of column 3, "Both the client 21 and backup server 22 are interconnected through some means of connection 31, such as a serial, intranetwork, internetwork, telephonic, infrared, or similar interface or combination thereof."), and a chip that is programmed with an instruction set (From line 51 of column 3, "The individual computer systems, including intranetwork clients 11, mobile clients 16, remote clients 17, and centralized server 12, are general purpose, programmed digital computing devices consisting of a central processing unit (CPU),

random access memory (RAM), non-volatile secondary storage, such as a hard drive or CD ROM drive, network interfaces, and peripheral devices, including user interfacing means, such as a keyboard and display. Program code, including software programs, and data are loaded into the RAM for execution and processing by the CPU and results are generated for display, output, transmittal, or storage."),

wherein said instruction set includes: (i) one or more commands that cause automatic communication with said memory storage on a predetermined periodic basis to determine whether contents within said local memory storage have been modified relative to a prior communication with said memory storage; and (ii) one or more commands that cause automatic communication between said first communication element and a second communication element associated with a remote data storage location if it is determined that contents within said local memory storage have been modified relative to said prior communication with said local memory storage; (b) automatically determining whether data stored within said local memory storage has been modified; and (c) if data stored within said local memory storage has been modified, automatically communicating said data to a remote data storage location (From line 37 of column 5, "The backup date 62 column stores the last date upon which the file 52 was successfully backed up. The file date 63 column stores, as file attributes, the date and time of the last modification to the file 52." From 1 of column 6, "Between backup sessions, the data set 27 is tracked (block 81) for addition, modifications and deletions. Generally, the data set 27 is tracked indirectly by the operating system, which automatically places a date and time stamp on the individual

files 52 (shown in FIG. 3) in the data set 27 upon creation or modification. At the stochastically scheduled time, as explained further below with reference to FIG. 11, the backup session application 25 wakes up (block 82), that is, is activated to attempt a data backup session. If the client 21 busy processing other tasks (block 83), the backup session application 25 waits (block 84) for a predetermined time period. A default time period of ten minutes is used in the described embodiment." From line 66 of column 7, "During the first processing loop (blocks 131-139), each file 52 is retrieved (block 132) and, if present in the index file 50 (block 133), checked for changed file attributes (block 135). If the file attributes have changed (block 135), the file 52 is copied into the backup data set (block 136). Otherwise, the file 52 is skipped. In the described embodiment, changed file attributes are detected by comparing the date and time of the file 52 against the file date 63 stored in corresponding entry 61 in the index file 50. Other techniques for detecting changed file attributes are feasible. If the retrieved file 52 is not in the index file 50 (block 133), a new entry 61 is made in the index file 50 (block 134) and the file 52 is copied (block 136). If the file copying is successful (block 137), the backup date 62 in the corresponding entry 61 in the index file 50 is updated (block 138) and iterative processing continues with the next file 52. Otherwise, if the file copying was unsuccessful (block 137), the routine returns.").

Although SM does not specifically disclose said device may be a black box recorder associated with an airliner, communicating black box data is known in the art. An example of this is shown by Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight

performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly." A person of ordinary skill in the art at the time of the invention would have been motivated to backup black box recorder data because, from line 34 of column 1 of Wright, "so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly. In a further effort to improve aircraft safety, rather than wait for an accident to happen before analyzing flight; recorder data, the

Federal Aviation Administration (FAA) has issued a draft advisory circular AC-120-XX, dated Sep. 20, 1995, entitled "Flight Operational Quality Assurance Program" (FOQA), which recommends that the airlines look at the information provided by the digital flight data acquisition unit at regular intervals."

SM in view of Wright discloses said black box recorder includes data collected by at least one of a cockpit voice recorder, a flight data recorder, a flight data recorder and a flight data acquisition unit (Wright, from line 10 of column 2, "In accordance with the present invention, the above-described objective of periodically analyzing flight performance data, without having to physically access a redundant unit on board the aircraft, is successfully addressed by means of a wireless ground data link, through which flight performance data provided by airborne data acquisition equipment is stored, compressed, encrypted and downloaded to an airport-resident ground subsystem, which forwards flight performance data files from various aircraft to a flight operations control center for analysis. For purposes of providing a non-limiting example, in the description of the present invention, the data acquisition equipment will be understood to be a DFDAU." Further, from line 24 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly

known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly.").

SM in view of Wright discloses said contents of local memory storage includes flight recorder data (From line 23 of column 1, "Modern aircraft currently operated by the commercial airline industry employ airborne data acquisition (ADA) equipment, such as a digital flight data acquisition unit (DFDAU) as a non-limiting example, which monitor signals supplied from a variety of transducers distributed throughout the aircraft, and provide digital data representative of the aircraft's flight performance based upon such transducer inputs. As flight performance data is obtained by the acquisition equipment, it is stored in an attendant, physically robust, flight data recorder (commonly known as the aircraft's "black box"), so that in the unlikely event of an in-flight mishap, the flight data recorder can be removed and the stored flight performance data analyzed to determine the cause of the anomaly.").

Although SM in view of Wright does not specifically disclose this is data selected from the group consisting of pre-amplified sounds from the cockpit, pre-amplified voices from the cockpit, time, pressure, altitude, airspeed, vertical acceleration, magnetic heading, control-column position, rudder-pedal position, control-wheel position, horizontal stabilizer, fuel flow and combinations thereof, the use of this type of information is well known in the art. An example of this is shown by Benn, from line 16 of column 1, "Most of the commercial aircraft flying today are equipped with flight data recorders for recording various aircraft flight parameters such as altitude, airspeed,

heading and engine data. The primary purpose for recording aircraft flight data is to provide flight data for accident analysis but the flight data recorded on the aircraft has also proven useful to airline management for other purposes including aircraft maintenance and incident analysis such as a landing approach resulting in a hard landing or a go-around. With the advent of modern digital flight data recorders that are capable of storing over a hundred different flight parameters, the usefulness of the data to the airline operating and maintenance personnel has expanded dramatically. The availability of a large number of flight parameters has made possible significant improvements in the safety as well as economics of flight operations by permitting management to analyze actual flight data. However, in order to be useful, this data must be made available to management in a timely manner and in useful formats." A person of ordinary skill in the art at the time of the invention would have been motivated to use this data because Wright has explicitly disclosed a need for this type of data without naming specifically what this data is, and Benn fulfills this need by disclosing such types of data that may be used in flight analysis as is typical of black box flight data recorders.

Allowable Subject Matter

15. The indicated allowability of claims 6, 9, 14, 17 (incorporated into claims 1, 12, 21, 22) is withdrawn (see arguments below and rejections based on the newly cited reference(s) above).

Response to Arguments

16. Applicant's amendment with respect to claims 1-5, 7-13, 15-22 have been considered but are moot in view of the new ground(s) of rejection. From MPEP 2131 (with emphasis), "When a claim covers several structures or compositions, either generically or **as alternatives**, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art." Brown v. 3M, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001). Further, from MPEP 2173.05(h), Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See Ex parte Markush, 1925 C.D. 126 (Comm'r Pat. 1925). Thus it is clear that Markush groups are claiming something in the alternative, and it is clear that alternatives in claims are anticipated if any of the alternatives are known in the prior art. This forms the basis of the newly applied rejections above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gabriel L. Chu
Examiner
Art Unit 2114

gc